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# *Biehl*

## INDUSTRIAL CARS AND EQUIPMENT



Organized 1855

Incorporated 1916

Catalog No. 8

THE BIEHL IRON WORKS, INC.

READING, PA., U. S. A.



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## Introductory

**T**his catalog supersedes all previous issues. While it shows and describes only types of our regular line of Industrial Cars and Equipment, we maintain an extensive engineering department and are prepared to estimate on special requirements.

For more than sixty years we have maintained the highest standard of Quality and Service, modern methods for manufacturing being employed to reduce costs on all products consistent with high grade output.

Correspondence is solicited from all parts of the globe, as our products are adapted to meet the most unusual conditions.





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## Biehl Industrial Cars and Equipment are Built for

Asbestos Factories	Lime Kilns
Ash Handling Systems	Lumber Yards
Automobile Factories	Mines—
Blast Furnaces	Coal
Bolt and Nut Factories	Copper
Cereal Mills	Gold
Charcoal Plants	Iron Ore
Chemical Plants	Nitrate
Clay-Working Plants	Salt
Coal Handling Plants	Silver
Coal Mines	Zinc
Coal Yards	Oil Well Drillers
Cold Storage Plants	Paint Works
Contractors for	Paper Mills
Bridges	Planing Mills
Buildings	Plantations—
Excavating	Coffee
Highways	Sugar Cane
Railroads	Pressed Steel Companies
Sewers	Quarries
Cotton Mills	Railroads
Creosoting Plants	Rolling Mills
Dairies	Salt Factories
Factories	Sand and Gravel Companies
Fertilizer Plants	Soap Factories
Foundries—	Starch Factories
Brass	Steel Mills
Grey Iron	Sugar Refineries
Malleable Iron	Tanneries
Steel	Timber Companies
Furniture Factories	Tin Mills
Gas Well Drillers	Varnish Works
Glass Factories	Vineyards
Ice Plants	Warehouses
Ice Cream Plants	Wholesale Groceries
Japanning Plants	Wire Mills
Leather Factories	Zinc Manufactories

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## Information Desired When Requesting Estimate

To assist us in making an intelligent estimate on equipment, it is very essential that the following information accompany the request for quotation:

- Kind of material
- Weight per cubic foot of material to be hauled
- How loaded—if from Bins, by Buckets, Hand or Steam Shovel
- How many cars in train
- What degree of incline or grades
- Power used—Locomotive, Motor, Gas, Horse, Hoist, or Man power
- Conditions of Dump
- Dimensions of Turntables or Transfers
- Gauge of Track
- Size of rails
- Radius of Curves
- Distance from guard rails to track
- Distance from top of rail to center of drawbar
- Style of Car
- Style of Coupler
- Capacity of Car
- Loading height
- Height overall
- Width overall
- Length overall

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## Weights of Various Substances Per Cubic Foot

	Pounds		Pounds
Ash .....	34.3	Mica .....	183
Ashes, soft coal, packed.....	43	Mortar, hardened.....	103
Brass .....	511	Mud, dry, close.....	80 to 110
Brick, best pressed.....	150	Mud, wet, pressed.....	110 to 130
Brick, common hard.....	125	Mud, wet, fluid.....	104 to 120
Brick, soft inferior.....	100	Naptha .....	53.1
Cement, Portland.....	90	Oak, live, dry.....	59
Cement, natural.....	56	Oak, white, dry.....	48
Cast iron.....	450.54	Oak, other species.....	32 to 45
Cinders .....	45	Paper .....	58
Charcoal .....	18	Peat, dry.....	20 to 30
Clay, Potter's, dry.....	119	Petroleum .....	54.9
Clay, in lump, loose.....	63	Pine, white, dry.....	25
Clay, moist, compact.....	163	Pine, yellow, Northern.....	38
Coal, Anthracite, broken.....	50 to 55	Pine, yellow, Southern.....	45
Coal, Bituminous, solid.....	84	Pitch .....	75
Coal, Bituminous, loose.....	48 to 52	Platinum .....	1342
Coke .....	62.5	Quartz, common, pure.....	165
Coke, loose.....	26	Rosin .....	69
Concrete .....	150	Salt, coarse.....	45
Dry Fruits.....	45	Salt, solid.....	134
Earth, dry, rammed.....	93	Salt, table, fine.....	49
Earth, dry, shaken.....	85	Sandstone .....	151
Earth, dry, loose.....	75	Sand, perfectly dry, loose....	90 to 106
Earth, as mud.....	102	Sand, perfectly wet.....	130
Earth, as mud with gravel.....	126	Sand, moist, loose.....	110
Fruit .....	22	Sand, sharp.....	117
Glass .....	186	Shales, red or black.....	162
Granite .....	170	Silver .....	655
Gravel .....	109	Slag, furnace.....	53
Gypsum, Plaster of Paris.....	142	Slate .....	175
Ice .....	57.5	Spruce, dry.....	25
Iron, Foundry cast, steel.....	450	Soap .....	66.9
Iron, wrought and steel....	475 to 494	Soapstone .....	170
Lead .....	709.7	Stone .....	178
Lime, quick, ground, loose or in small lumps.....	53	Sulphur .....	125
Limestone, ordinary, and marble.	168	Sycamore, dry.....	37
Limestone, ordinary, and marble in fragments.....	96	Tar .....	62
Magnesium .....	109	Tin, cast.....	459
Masonry Debris.....	90	Walnut, black, dry.....	38
Masonry .....	143 to 165	Water, rain or distilled.....	63
Mercury .....	848.7	Water, sea.....	64
		Wax, bees.....	60.5
		Zinc or Spelter.....	437.5

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## Biehl "V" Dump Cars

**B**IEHL "V" Dump Cars are easy to dump and make a clean and complete discharge, absolutely clear of frame and trackage.

They are constructed from the very best materials and built for service.

The bodies of Biehl cars are made of steel plate, properly reinforced. The frames are made from steel channels.

All cars are furnished with heavy cast wheels, iron or steel, as desired, the kind of bearings depending on the class of service for which the cars are to be used. The braking equipment depends also on class of service, several types of brakes being furnished.

Standard types of Biehl "V" Dump Cars are shown on pages 10 to 20 of this catalog. In addition to these standard types, we are continually building special cars to meet extraordinary conditions, and invite special car construction. These cars are used by

Blast Furnaces, Chemical Plants, Coal and Ore Mines, Contractors in great variety, Creosoting trade, Ice Factories, Steel Mills, Plantations, Automobile Factories, Clay Working Plants, Coal Yards, and many other industries.

On pages 21 to 30 we show a line of various factory cars for many uses. They include

Yard Cars, Platform Cars, Push Cars, Trucks for Foundry and Warehouse work, Charging Cars, Fire Wagons, Lime Cars, Core Oven, Skip and Special Cars.

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BIEHL IRON



WORKS, INC.

## Biehl "V" Dump Car



Biehl Figure 1 "V" Dump Car

The design and construction of the Biehl "V" Dump Car is the result of many years' experience and knowledge of the particular requirements of the industrial world for a Dump Car for general use.

It is used for conveying saturated and dry materials, such as concrete, sand, earth, slag, gravel, rock, ashes, etc. Wherever materials are to be conveyed from one place to another the Biehl "V" Dump Car will prove very economical to the user. Industrial plants of every description as well as contractors are big users of this particular Dump Car.

The Biehl "V" Dump Car is made in any size to suit the requirements of the user. When requesting estimate give information desired as per page seven of this catalog.

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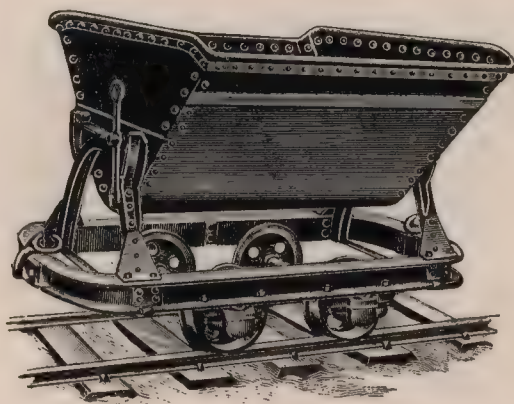


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## Side Dump Car



Biehl Figure 2 Side Dump Car

The Biehl Side Dump Car is designed especially for hauling earth, ore, coal, etc. It is very substantially constructed and has interchangeable metal sills. As cars are made to suit any gauge of track, rails of all sizes and weights are carried in stock.

No.	Capacity Cu. Ft.	Gauge of Track	No.	Capacity Cu. Ft.	Gauge of Track
147	18	Any Gauge	150	42	Any Gauge
148	21	" "	151	48	" "
149	36	" "	152	54	" "

Prices on application.

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## Extra Heavy Side Dump Car



Biehl Figure 3 Extra Heavy Side Dump Car

The above illustration shows the Biehl Extra Heavy Side Dump Car; especially adapted for hauling heavy and rough material. It is made of extra heavy steel plate, properly reinforced. The frame is rectangular, durably built, and has four channel beams running lengthwise with the frame.

The dumping mechanism of this car provides very easy and convenient operation.

Prices on application.

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## Industrial Car



Biehl Figure 4 Industrial Car

The Biehl Industrial Car is used extensively by contractors, foundries, stone quarries and industrial plants. Although light in construction it is very durable and will give good service.

No.	Capacity Cu. Ft.	Gauge of Track	No.	Capacity Cu. Ft.	Gauge of Track
1001	18	Any Gauge	1004	42	Any Gauge
1002	21	" "	1005	48	" "
1003	36	" "	1006	54	" "

Prices on application.

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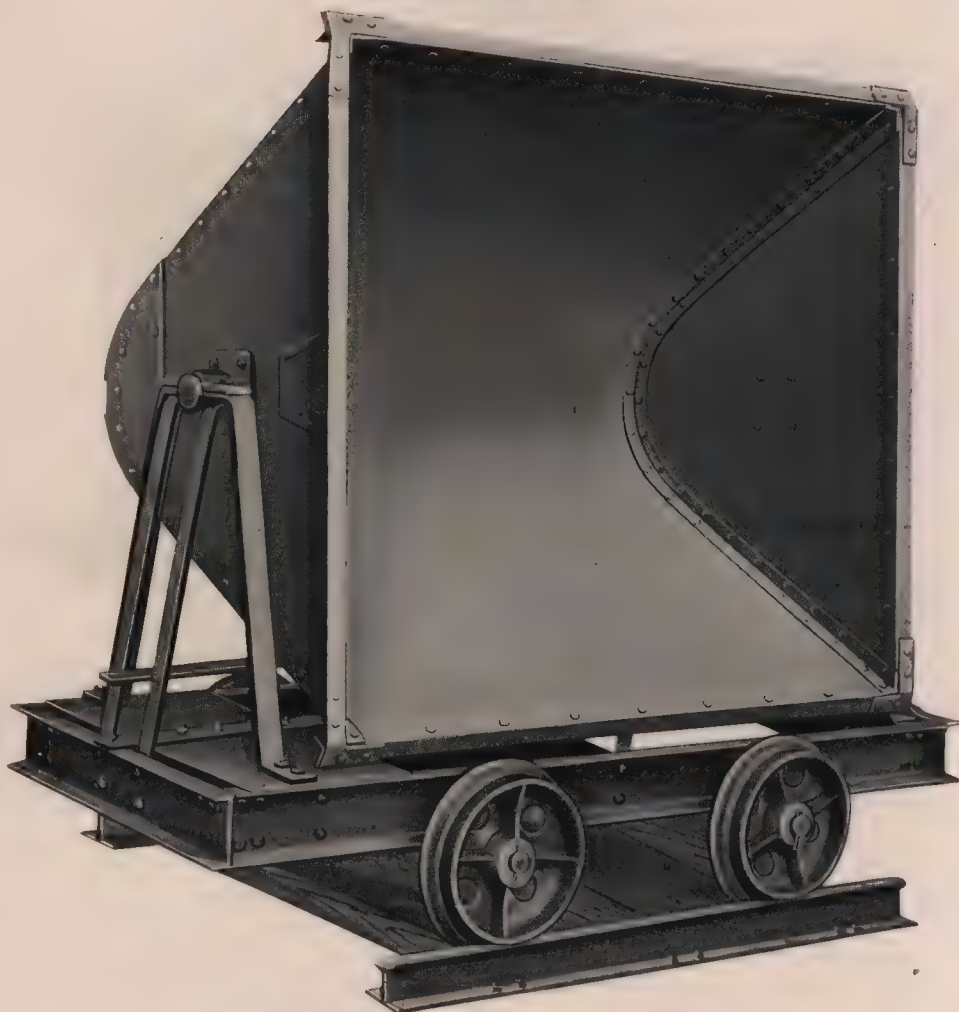


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## Industrial Car



Biehl Figure 4 Industrial Car in Dumping Position

No.	Capacity Cu. Ft.	Gauge of Track	No.	Capacity Cu. Ft.	Gauge of Track
1001	18	Any Gauge	1004	42	Any Gauge
1002	21	" "	1005	48	" "
1003	36	" "	1006	54	" "

Prices on application.

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## Standard Side Dump Car



**Biehl Figure 5 Standard Side Dump Car**

It will be seen that our Standard Side Dump Car is mounted on oval frame constructed by use of heavy channel beams. It is of the rocker dump type, and is adapted for conveying materials in solid or paste form. It is in great demand by all manner of industrial plants, contractors and quarries.

It is easily hand operated by one or two men.

Prices on application.

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## Standard Side Dump Car



Biehl Figure 5 Standard Side Dump Car in Dumping Position

Here we show the dumping position of the Standard Side Dump Car which position demonstrates that it will completely clean itself when contents are being discharged. The load is dumped absolutely clear of frame and trackage. The upright position of this car is shown on preceding page. Prices on application.

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## Heavy Standard Side Dump Car



**Biehl Figure 6 Heavy Standard Side Dump Car**

The Biehl Heavy Standard Side Dump Car is strongly constructed of steel. Oval frame of heavy channel beams is used. It was designed especially for hauling heavy materials, such as coal, crushed stone, sand, ore, castings, etc., and is most used by contractors and industrial plants.

Made of any capacity to suit your requirements.

Prices on application.

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## Heavy Standard Side Dump Car



Biehl Figure 6 Heavy Standard Side Dump Car  
In Dumping Position

The above illustration again shows the very satisfactory dumping position of this car, as it is highly essential that a dump car absolutely cleans itself when dumped. This car is of very durable construction being reinforced throughout.

Made of any capacity to suit your requirements.

Prices on application.

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## Tie Creosoting Car



Biehl Figure 7 Tie Creosoting Car

The Biehl Tie Creosoting Car is made with heavy channel yokes forming a steel cradle mounted on heavily constructed frame. It is used for creosoting railroad ties, fence posts and heavy timbers for building purposes.

Prices on application.

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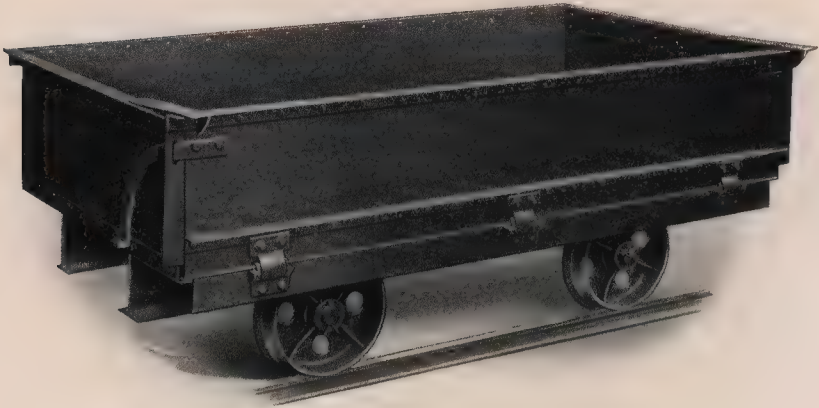


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## Charging Car



Biehl Figure 8 Charging Car—Closed



Biehl Figure 8 Charging Car—Open

The Biehl Charging Car is most used in power plants for handling coal, ashes, coke.

In large boiler rooms, it is the practice to haul coal from the bins, then to shovel direct from the charging car into fire-box.

Prices on application.

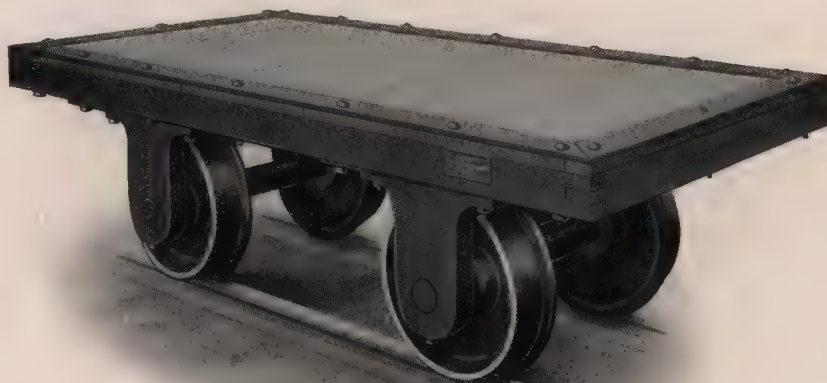
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## General Yard Car

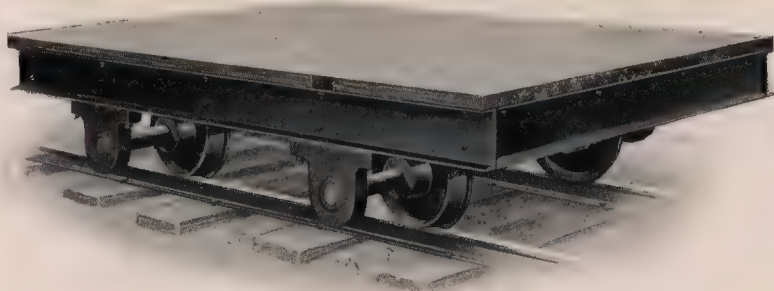


**Biehl Figure 9 General Yard Car**

The General Yard Car is used in industrial plants for hauling heavy castings, steel forgings, etc., to various parts of factory, and for general hauling in factory yards.

Price on application.

## Platform Car



**Biehl Figure 10 Platform Car**

This Car is used both in factories and field work. It is very convenient for foundry and machine shop service.

Price on application.

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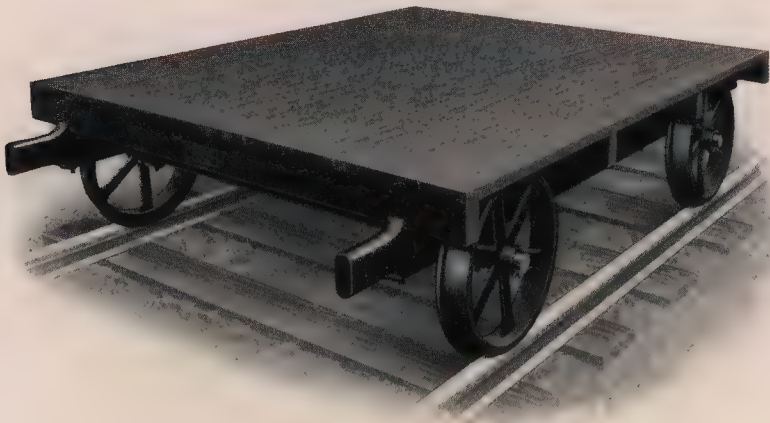


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## Push Car



**Biehl Figure 11 Push Car**

The Biehl Push Car is used by railroad companies for various purposes. It also serves as a yard car for industrial plants for hauling.

Prices on application.

## Steel Rod Truck



**Biehl Figure 12 Steel Rod Truck**

The Biehl Steel Rod Truck is used by pipe shops, planing mills and factories for hauling steel rods, piping, and lumber.

Prices on application.

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## Platform Car



**Biehl Figure 13 Platform Car**

This Factory Truck or Platform Car is used by warehouses, machine shops, bolt and nut plants, paper mills and printing plants.  
Price on application.

## General Purpose Foundry Flat Top Truck



**Biehl Figure 14 Foundry Flat Top Truck**

This truck is quite a favorite for foundry use. The top is of one-fourth inch steel plate. The wheels are flat-faced, but can be flanged for track. It is equipped with a good, strong pulling handle.

Length of platform.....	48"	Carrying capacity.....	2 tons
Width of platform.....	30"		or anything lighter.
Diameter of wheels.....	11"		

Price on application.

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## Cupola Truck



**Biehl Figure 15 Cupola Truck**

For hauling pig iron and other materials for cupolas.

## Box Truck



**Biehl Figure 16 Box Truck**

Wholesale houses, warehouses and stores use the Biehl Box Truck to good advantage.

Prices on application.

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## Charging Car or Wagon



Biehl Figure 17 Charging Car—Closed



Biehl Figure 17 Charging Car—Open

The above Charging Car or Wagon has been designed for use in small power plants or boiler rooms for hauling coal from bin to boilers, also for removing ashes.

No.	Cu. Ft. Capacity	No.	Cu. Ft. Capacity
152	15	155	30
153	20	156	45
154	26		

Prices on application.

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## Standard Fire Wagons



Biehl Figure 18 Standard Fire Wagon

The Biehl Fire Wagon is made of the best materials very substantially constructed. The body is made of one-fourth inch tank steel and perforated, also has a  $3\frac{1}{2}$ " flange at the top. It is equipped with cast grates made in 24 sections, which can be replaced easily in case of breakage. An extra strong ash pan with sloping bottom is also provided. The uprights are made of strong angle iron, notched for cross bar to hold melting pots and tools.

Length of Body..... $5' 1\frac{1}{2}"$

Width of Body..... $2' 6\frac{1}{2}"$

Depth of Body..... $1' 0"$

Wheels have 8" hub and are equipped with broad tires.

Prices on application.

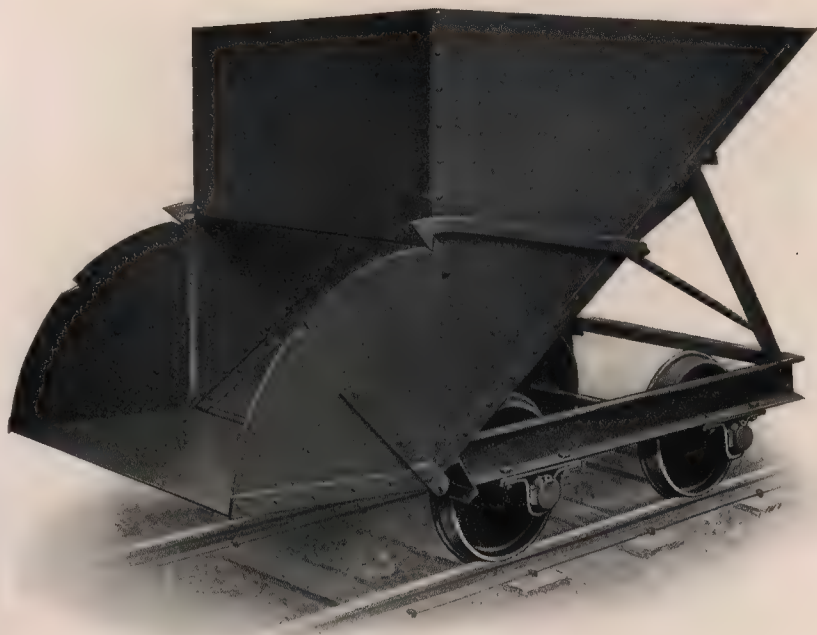
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## Lime Car



Biehl Figure 19 Lime Car

The Biehl Lime or Hopper Car is of all steel construction, properly reinforced, mounted on heavy substantial truck. As will be noticed it is especially adapted for taking on load from lime kilns or elevated shoots. The load may be completely or only partially emptied, catch hooks being provided to retain as much of contents as desired.

Prices on application.

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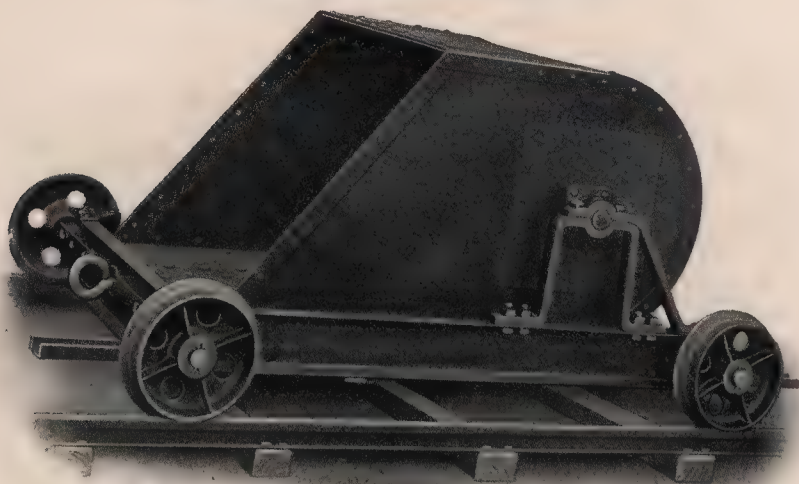


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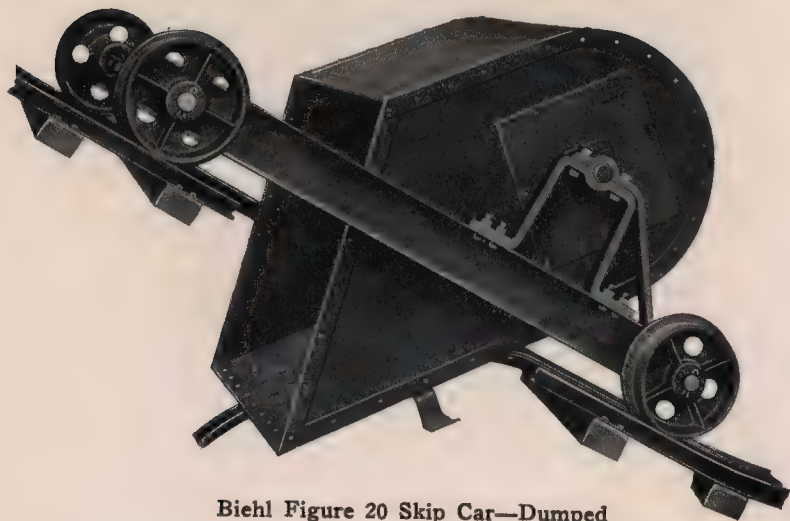


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## Dumping Steel Skip Car



Biehl Figure 20 Skip Car



Biehl Figure 20 Skip Car—Dumped

Above illustrations show the Biehl Steel Skip Car, designed for conveying ore and other materials. Load can be discharged automatically. It is used by blast furnaces and other industrial plants where incline work is necessary. Prices on application.

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## Core Oven Car



Biehl Figure 21 Core Oven Car

The Biehl Core Oven Car is durably made and mounted on substantial truck. It can be furnished with either flanged or flat wheels. It is equipped with 28 trays. The racks are interchangeable and shelves can be raised or lowered to accommodate large or small cores.

Track Gauge.....	27"	Size of Trays.....	2' x 3'-6 $\frac{3}{4}$ "
Height Overall.....	5'	Diameter of Wheels.....	12"
Width Overall.....	4'	Diameter of Axle.....	2"
Length Overall.....	8'-6"	Equipped with Roller Bearings.	

Prices on application.

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## Special Cars



Biehl Figure 22 Special Car

The above illustrations show two views of one of the many special cars we build for various industrial purposes. Estimates will be promptly given on all special cars of any given capacity.

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## Improved Car Unloaders



Closed



Open

Biehl Figure 23 Car Unloaders

You can unload anything that is shoveled with these Improved Unloaders, such as crushed rock, sand, gravel, hard or soft coal. A number of our customers use them to unload grain from box cars. All that is necessary to unload box car is to spike a few timbers on inside and allow them to extend across doorway to support Unloader.

When changing Unloader, it is always best to do it with a loaded wagon. The Unloader is hooked to top edge of railroad car and must have the proper slant to discharge immediately into Dump Wagon.

No.	Capacity in Cu. Ft.	Weight
680	21	215
681	27	285
682	41	325

Prices on application.

**SPECIFY BIEHL CARS AND SAVE LABOR**





## Biehl Buckets

THE Biehl Line of Tubs and Buckets needs no introduction to the long list of users who have tried Biehl Buckets. But for those contemplating the use of such equipment, we show on pages 33 to 42 a few of the various types of Tubs and Buckets which have been in use for many years.

These buckets are built to endure the hardest kind of usage encountered in excavating, construction and overhead conveyance work.

They are adapted for service wherever materials are to be lifted, conveyed and dumped, and are used by

Contractors, Stevedores, Coal and Ore Mines, Cement Factories, Coal Handling Plants, Clay Working Plants, Quarries, Sand and Gravel Companies, Brick Companies, etc.

When contemplating the need for Buckets, write to our Engineering Department, stating the kind of materials to be handled and conditions under which buckets will have to operate. We can then make our recommendations to you intelligently and give you the benefit of information resulting from many years' experience.

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## Coal and Ore Tubs Side Catch



Biehl Figure 24 Coal and Ore Tubs

No.	Cubic Feet Cap	Coal Cap Pounds	Weight of Tub Pounds	Gauge of Steel	Height from Floor to Mouth of Tub	Height from Floor to Top of Bail	Height from Floor to Top of Side	Length Over All	Width Over All
2	5	250	155	10	17½	34½	22	29	29
3	7	335	165	10	18	36	23	31½	32
4	8	400	250	10	20	38	25	34	34½
5	10	500	280	10	22	41½	27½	36	36
5B	11	560	300	10	22	42	28	37	38
6	12	600	340	10	23	43	29	38	39
7	15	700	400	10	23	46	31	40½	42
8	16	800	435	10	24	48	31	42½	43
9	18	900	450	10	24½	48½	32	43	44
10	20	1000	475	10	25	49	32	44	45
11	22	1120	485	10	25½	49	32	45	46
12	24	1200	500	10	26½	51	34	51	49
13	27	1350	570	10	28	55	35	52	50
15	30	1500	645	10	30	60	37½	53	51
20	40	2000	825	10	32½	64	40½	56	57
22	45	2240	850	10	32½	64	40½	56	59

Used mostly by Stevedores and Contractors all over the country. An excellent feature of this Tub is that it has three large wheels on the bottom and one small wheel on front side, enabling the Tub to be handled easily and quickly.

Prices on application.

**SPECIFY BIEHL CARS AND SAVE LABOR**





## Coal and Ore Tubs

### Back Catch



Biehl Figure 25 Coal and Ore Tub

No.	Cubic Feet Cap	Coal Cap Pounds	Weight of Tub Pounds	Gauge of Steel	Height from Floor to Mouth of Tub	Height from Floor to Top of Bail	Height from Floor to Top of Side	Length Over All	Width Over All
50	5	250	155	10	17½	34½	22	29	29
51	7	335	165	10	18	36	23	31½	32
52	8	400	250	10	20	38	25	34	34½
53	10	500	280	10	22	41½	27½	36	36
54	11	560	300	10	22	42	28	37	38
55	12	600	340	10	23	43	29	38	39
56	15	700	410	10	23	46	31	40½	42
57	16	800	435	10	24	48	31	42½	43
58	19	900	445	10	24½	48½	32	43	44
60	20	1000	455	10	25	49	32	44	45
62	22	1120	475	10	25½	49	32	45	46
63	24	1200	500	10	26½	51	34	51	49
64	27	1350	550	10	28	55	35	52	50
66	30	1500	645	10	30	60	37½	53	51
70	40	2000	825	10	32½	64	40½	56	57
72	45	2240	850	10	32½	64	40½	56	59

This Back Catch Tub is same as Coal and Ore Tub as shown on page 33, except that bail is held in position with a lever in back of Tub, whereas side catch Tub has catch on side of bail.

Buckets with double bottoms, made extra strong and heavy for stone and ore can also be furnished.

Prices on application.

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## Contractors' Buckets Straight Sides, Class C



Biehl Figure 26 Contractors' Buckets

No.	Coal Capacity in Pounds	Capacity in Cubic Feet	Length in Inches	Width in Inches	Depth in Inches
80	300	6	33	26	19
81	400	8	36	29	22
82	500	10	41	30	24
83	600	12	42	33	25
84	700	14	47	33	26
85	800	16	48	35	27
86	900	18	48	37	29
87	1050	21	48	43	30
90	1350	27	52	46	31
96	1800	36	58	52	33
99	2100	42	60	56	34¾

Prices on application.

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## Contractors' Buckets

### Class B



Biehl Figure 27 Contractors' Buckets

No.	Capacity in Cu. Ft.	Length in Inches	Width in Inches	Depth in Inches
103	6	33	29	19
105	8	35	33	19
106	10	36	34	21
107	12	38	36	33
108	14	40	38	25
109	16	41	40	24
110	18	43	41	27
111	21	46	45	28
112	27	50	48	30½
113	36	55	52	34
114	42	58	54	36

Prices on application.

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## Contractors' Buckets

### Class A



Biehl Figure 28 Contractors' Buckets

The Biehl Class A Contractors' Buckets are made with flaring sides, all corners being well rounded. These buckets are made extra strong throughout.

No.	Capacity in Cu. Ft.	Length in Inches	Width in Inches	Depth in Inches
115	6	30	33	18
116	8	33	36	20
117	10	36	41	21½
118	12	38	44	23
119	14	40	46	25
120	16	41	47	26
121	18	43	47	27
122	21	45	48	28
123	27	49	53	31
124	36	57	65	33
125	42	59	66	34½

Prices on application.

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## Round Bucket



Biehl Figure 29 Round Bucket

The Biehl Round Bucket is used for mining, digging trenches and deep caisson work. It is very durably made, the bottom being of heavier material than the sides. Its uses are unlimited.

No.	Capacity in Cu. Ft.	Width in Inches	Height Over All	Depth of Bucket in Inches	Weight of Bucket
130	6	31	33	19	150
131	8	33	36	21	175
132	11	39	42	22	220
133	14	44	49	25	285
134	17	46½	51	26½	320
135	21	48	56	30½	416
136	27	50½	60	33½	500
137	42	58½	71	40	750

Prices on application.

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## Controllable Two Door Bottom Dump Bucket



Closed



Full Opening

**Biehl Figure 30 Controllable Two Door Bottom Dump Bucket**

The Biehl Controllable Two-Door Bottom Dump Bucket is controlled by one lever as illustrated, and is adapted to slow, gradual dumping, as when spreading concrete in layers, dumping into narrow forms, etc.

The operator can control the lever with one hand, and steady bucket with the other, and at the same time is permitted to see where and how he is dumping.

The bucket will not swing around. After the operator raises the latch, the load pressing on the doors slowly moves the operating lever without any effort on the part of the man operating it. All that is required of the operator is to raise and lower the latch into the different notches in the quadrant.

The doors are strongly braced on all sides, and when opening, hug the two sides of the Bucket closely so that no material can escape from the back sides, but is directed towards the centre. The same conditions prevail when closing, and all possible clinging substance is scraped off allowing the doors to pull up tightly with the bottom of the Bucket.

No.	Capacity in Cu. Ft.	Length of Top	Width Over All	Depth	Height Over All	Approximate Weight
805	14	32	38	38	46	580 lbs.
806	21	36	40	44	52	790 lbs.
807	27	38	44	46	54	950 lbs.
808	42	44	48	54	62	1200 lbs.

Prices on application.

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## Bottom Dump Bucket



Biehl Figure 31 Bottom Dump Bucket

The Biehl Bottom Dumping Bucket is the strongest bucket on the market, made for contractors who require a good, strong, serviceable bottom dump bucket that will stand all kinds of hard work and usage.

No.	Cubic Yards Capacity	Average Weight
140	$\frac{1}{2}$	550 lbs.
141	$\frac{3}{4}$	650 lbs.
142	1	700 lbs.
143	$1\frac{1}{2}$	900 lbs.
144	2	1350 lbs.
145	$2\frac{1}{2}$	1700 lbs.
146	3	2000 lbs.

Prices on application.

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## Quick Acting Double Door Bottom Dumping Bucket



Closed (Patent Applied for) Dumped  
Biehl Figure 32 Quick Acting Double Door Bottom Dump

The Biehl Quick Acting Double Door Bottom Dump Bucket is made for general use, to handle all kinds of materials. For clean dumping and quick acting it cannot be excelled. The lever mechanism is simple, yet amply secure. The levers are so designed that the load in the bucket holds the doors in place. An extra safety catch is provided and placed at the most convenient position possible, being attached to the operating rod. The operator loses no time in loosening the catches before being able to open the doors. The doors are made of heavier material than the bucket and are braced in best possible manner.

For dumping under water or in deep caissons it can be used to great advantage, as a pull from any angle by a tag line attached to the catch opens the doors.

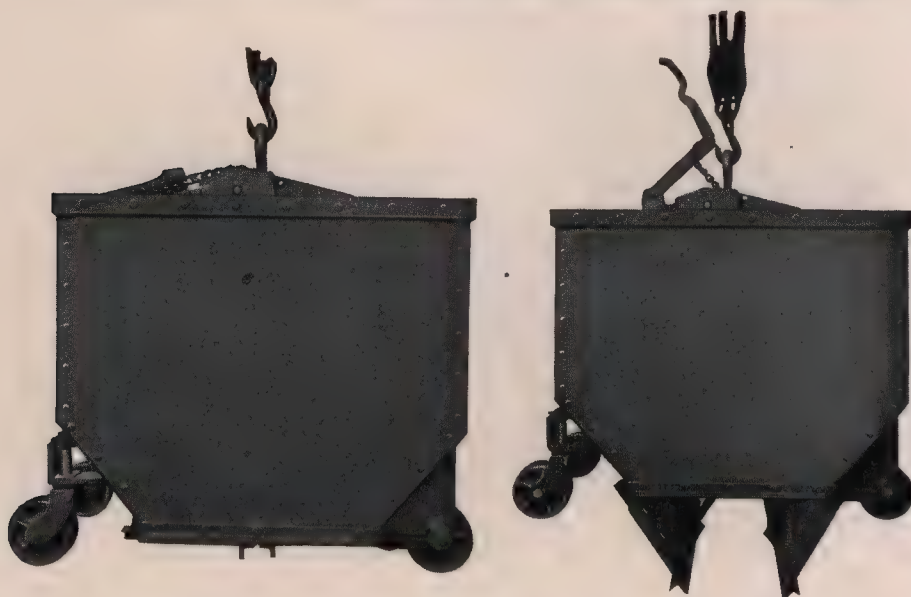
No.	Sizes in Cu. Ft.	Length at Top in Inches	Width in Inches	Height in Inches	Approximate Weight
812	14	34	28	32	615
813	21	38	32	40	800
814	27	42	36	42	950
815	42	48	38	48	1175

Prices on application.

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## Overhead Monorail Bottom Dumping Bucket



Closed

Dumped

Biehl Figure 33 Overhead Monorail Bottom Dumping Bucket

The above bucket is used for handling coal and ashes where space does not allow use of regular turn-over buckets.

The doors are released and raised by chain and lever. The load is very easily dumped and contents flow clean of sides.

No.	Cubic Feet Capacity	Coal Capacity in Pounds
700	10	500
701	14	700
702	22	1120
703	30	1500
704	44	2240

Prices on application.

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## Contractors' Equipment

ON the following pages a great variety of equipment as used by Contractors is illustrated.

The uses for which each product is intended is clearly specified, although there are many other lines of industry for which these special labor saving essentials are adapted.

The Biehl Line, as illustrated, includes

Skips, Concrete Carts, Charging Barrows, Coaling Barrows for Overhead work, Coal and Smelter Barrows, Portable Tar and Asphalt Heaters, Tar Melting Furnaces, Tar Kettles on Wheels, Portable Furnaces, Pouring Kettles, Roofers' Dippers, Salamanders and Builders' Stoves, Lead Melting Furnaces on Wheels, Foundry Ladles, etc.

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## Heavy Skips



Biehl Figure 34 Heavy Skips

The Biehl Heavy Skip as above illustrated is used for Railroad construction, contract and quarry work.

It is made of tank steel, strongly reinforced.

The Skip is provided with heavy substantial lifting rings and best grade of hand made chains.

No.	Capacity in Cubic Yards	Size	Thickness of Plates in Inches
166	$\frac{1}{2}$	4' x 3'-6" x 12"	$\frac{3}{16}$
167	$\frac{3}{4}$	4'-6" x 4'-6" x 12"	$\frac{3}{16}$
168	1	5'-0" x 4'-9" x 14"	$\frac{1}{4}$
169	$1\frac{1}{4}$	5'-0" x 5'-0" x 16"	$\frac{1}{4}$
170	$1\frac{1}{2}$	5'-0" x 5'-0" x 18"	$\frac{1}{4}$
171	$1\frac{3}{4}$	5'-6" x 5'-6" x 18"	$\frac{1}{4}$
172	2	6'-0" x 6'-0" x 18"	$\frac{1}{4}$
173	3	6'-6" x 6'-6" x 24"	$\frac{1}{4}$
174	4	7'-0" x 7'-0" x 24"	$\frac{3}{8}$
175	5	8'-0" x 8'-0" x 24"	$\frac{3}{8}$

Prices on application.

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## "Neversink" Concrete Carts

### Types A and B



Biehl Figure 35 Concrete Cart

With a "Neversink" Concrete Cart one man can push or pull three to six times the ordinary wheelbarrow load. The axle is fastened to the body with two pieces of heavy angle iron and is bent up along the sides and further fastened by two double straps, thereby stiffening the sides and bottom.

No.	Cubic Feet Cap'y	Gauge of Body	Diam. of Wheel	Height Over All	Width Over All	Length Over All	Average Weight
600	5	14	30"	30"	33"	49"	150
601	6	14	30"	34"	38"	50"	175
601B	6	14	36"	37"	38"	50"	200

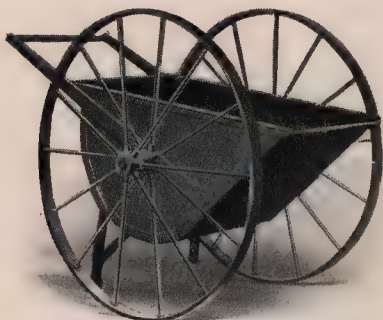
Prices on application.

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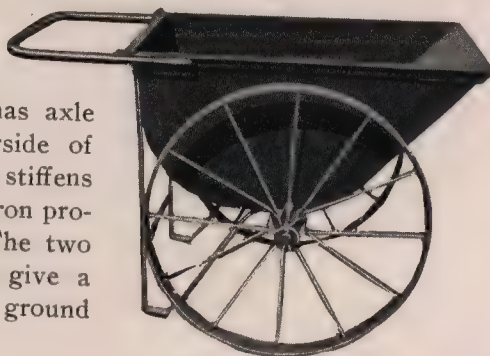
## "Neversink" Concrete Carts Type C



Biehl Figure 36 Concrete Cart

The axle of Type C Concrete Cart is fastened to the sides of the cart by pressed steel clips and is further supported by strong wrought iron straps running along the sides and continuing on to the handle. These straps stiffen the sides and give the axle a strong bearing surface. The body is well made and is practically grout tight.

## Type D



Type D Concrete Cart has axle securely fastened to underside of body. Angle iron molding stiffens the sides and a flat band of iron protects the lip in dumping. The two legs are slightly raised to give a wide clearance from the ground when in motion.

Biehl Figure 37 Concrete Cart

Type	C	D
Number .....	602	603
Capacity .....	6	5
Length of Body.....	36½"	36"
Width .....	20"	20"
Depth .....	20"	16"
Height Over All.....	32"	32"
Width Over All.....	36"	
Length Over All.....	54"	49"
Wheel Diameter.....	42"	
Gauge of Body.....	14	14
Average Weight.....	240	150

Prices on application.

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## Charging Barrow



Biehl Figure 38 Charging Barrow

The Biehl Charging Barrow is used for charging cupolas in foundries, blast furnaces and gas works. It is constructed so that load is well balanced over wheels. With the Barrow, one man can haul in a single load as much as he could haul in six loads with a common barrow.

It is strong and substantially built.

Regular sizes: No. 204 10 cu. ft.—No. 205 13½ cu. ft.

Prices on application.

SPECIFY BIEHL CARS AND SAVE LABOR

BIEHL IRON



WORKS, INC.

## Locomotive Overhead Coaling Barrows Short Billed



Biehl Figure 39 Locomotive Overhead Coaling Barrow

## Long Billed



Biehl Figure 40 Locomotive Overhead Coaling Barrow

The body of these barrows is made of No. 10 and No. 8 gauge steel, joined at corners with heavy angle iron. Length of body 63 inches, width 36 inches and 30 inches deep. Wheels 32 inches diameter,  $2\frac{1}{4}$  inches square axle.

Prices on application.

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## Two-Wheel Coal or Smelter Barrow



Biehl Figure 41 Two Wheel Coal or Smelter Barrow

The above illustration shows our coal and ore barrow. This barrow is the neatest and most durable made, and will outlast a number of ordinary barrows. The pipe handles are fastened to the tray by two double clamps and are double riveted to the front end of tray. The capacity is 8 cubic feet level full.

Gauge Steel in Tray				Size of Tray							
No.	Bottom and Front	Sides	Top Length	Top Width at Back	Top Width at Front	Greatest Depth	Size of Handles	Size of Axles	Size of Leg	Size of Leg Brs.	Approximate Weight
604	No. 10	No. 12	44 in.	32½ in.	39½ in.	16½ in.	1 in. pipe	1½ in.	¾x1¼ inch	¼x1¼ inch	260 lbs.

A heavier style barrow is made identical to the above for handling extra heavy materials, as follows:

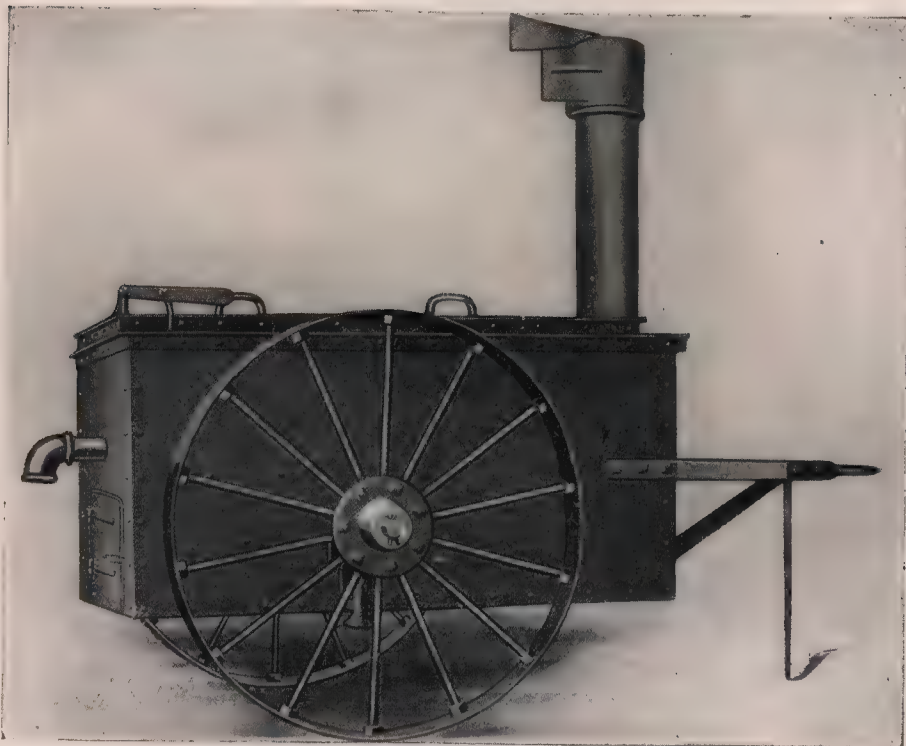
Gauge Steel in Tray				Size of Tray							
No.	Bottom and Front	Sides	Top Length	Top Width at Back	Top Width at Front	Greatest Depth	Size of Handles	Size of Axles	Size of Leg	Size of Leg Brs.	Approximate Weight
605	¾ in.	No. 10	44 in.	32½ in.	39½ in.	16½ in.	1¼ in. pipe	1½ in.	½x1½ inch	1¼x½ inch	360 lbs.

Wheels 20" diameter, 2" face. On the heavier style an extra tire 2¼ x ¾ is shrunk on.

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## Portable Tar and Asphalt Heater Type S-2



Biehl Figure 42 Portable Tar and Asphalt Heater

These kettles are made of No. 12 gauge steel plate with an extra plate riveted inside full length to resist the heat and prevent burning out.

The draw-off valve can be placed at either end as desired. A canopy stack is furnished with each kettle.

Prices on application.

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## Portable Tar and Asphalt Heater

Type S-4



**Biehl Figure 43 Portable Tar and Asphalt Heater**

The above illustration shows our 250 Gallon Tar Heater one of several sizes made. Substantial construction is apparent in every detail of these heaters. Especially is this the case in building the bottom and sides. The sides are reinforced with extra heavy gauge plates running the entire length of heater. The bottom consists of heavy 3" angles running the length of the body from which the axles are supported by heavy bracing, especially the rear axle which is supported its entire length. The fifth wheel is joined to the body and axle in the strongest possible manner. The draw-off valve can be placed at either end.

Each heater is equipped with canopy stack with revolving top and with the style handle as shown unless other style is desired.

### **Dimensions of 250 Gallon Capacity Heater**

Length .....	88 inches	Height from ground to top	
Width .....	40 inches	of body.....	56 inches
Depth .....	36 inches	Wheel base.....	50 inches
Width over all.....	57 inches	Grate area.....	9 sq. ft.

This Heater is made in capacities from 100 to 400 gallons.

Prices on application.

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## Portable Tar and Asphalt Heater Type E-5



**Biehl Figure 44 Portable Tar and Asphalt Heater**

The above illustration shows the elliptical style of tar heater which is generally made to hold 100 Gallons. The sides of body are made of No. 8 Gauge and the bottom of  $\frac{1}{4}$  plate. A piece of heavy angle iron is fastened along the top upon which the tank is fastened.

The tank is constructed of the same gauge plate as the body and is fastened to same by a piece of heavy angle iron riveted along the outside 6 inches from the top. General dimensions of tank—Length, 38 inches; Width,  $26\frac{1}{2}$  inches; Depth, 28 inches. The top of tank is covered with a neatly shaped plate divided and hinged in the middle.

The heater is provided with fire door and has an opening of  $8\frac{1}{2}'' \times 14''$ . In the front, at the top, a 6-inch galvanized pipe and elbow are securely fastened to the kettle by a  $2\frac{1}{2}$ -inch flange. The axle is of  $1\frac{3}{4}''$  square iron fastened to bottom and sides of heater.

The  $1\frac{1}{2}$ -inch draw off cock extends some distance from side of kettle and does not interfere with the fire door or tire of wheel. This draw off cock can be placed at opposite end of fire door if so desired.

These heaters are intended for wood burning but can be equipped with grates and a suitable cast iron bottom for tank at a slight additional cost if so desired.

Prices on application.

Size	Length	Width	Depth	Dia. Wheels
100 Gal.	44"	33	30	42

No. 511 With Grates.

No. 512 Without Grates.

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## Tar Melting Furnace



Biehl Figure 45 Tar Melting Furnace

The above illustration shows one style of Biehl tar heating kettles.

This style kettle can be made in any shape and of any capacity.

No.	Capacity in Gallons
513	30
514	50
515	100
516	150

Prices on application.

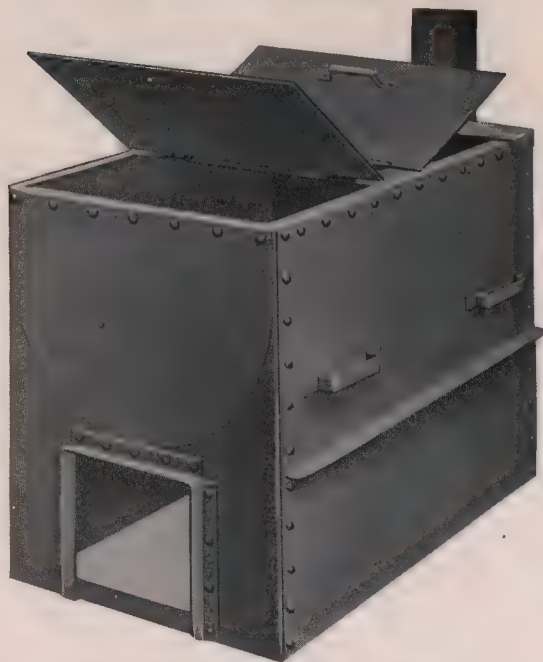
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Tar  
Melting  
Furnace



Biehl Figure 46 Tar Melting Furnace



Biehl Figure 47 Tar Melting Furnace

The above illustrations represent additional styles of tar heating kettles manufactured by us.

Inquiries regarding prices should give dimensions wanted to suit requirements. Prices on application.

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## Combination Melting and Pouring Tar Kettles on Wheels



**Biehl Figure 48 Combination Melting and Pouring Tar Kettles on Wheels**

The above illustration represents an invaluable aid to road builders and those keeping road beds in condition. The heavy iron cylinder shown on page 56 is equipped with a heavy cast iron grate and is mounted on two 16" diameter wheels. A strong handle is provided, making it easily portable from place to place. The kettle proper is removable and is mounted some distance above grate, leaving an ample fire place. The ten gallon size is the most popular one in demand.

No.	Capacity
517	5 Gallon
518	8 Gallon
519	10 Gallon

Prices on application.

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## Melting and Pouring Kettle

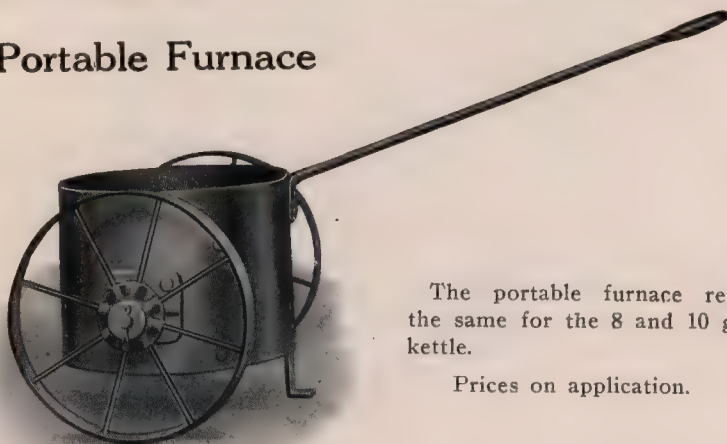
The Biehl melting and pouring kettle is provided with portable outfit shown on page 55. The bottom is of No. 16 gauge plate and sides of No. 18. All seams are rolled, positively no solder being used. The square spout is partly covered to prevent a large stream in pouring. The top of kettle is divided and hinged in middle.



Biehl Figure 49 Melting and Pouring Kettle

No.	Size in Gallons	Diameter in Inches
520	5	10
521	8	14
522	10	14½

## Portable Furnace



The portable furnace remains the same for the 8 and 10 gallon kettle.

Prices on application.

Biehl Figure 50 Portable Furnace

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## Pouring Kettles



Biehl Figure 51



Biehl Figure 52



Biehl Figure 53

## Roofers' Dipper

Biehl Pouring Kettles can be made in any size required.

Prices on application.

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## Salamanders or Builders' Stoves

Biehl Figure 54

No. 525 Plain Salamander  
Without Ash Pan  
17" Dia. 20" high



Biehl Figure 54



Biehl Figure 55

No. 527 Salamander With  
Pipe Connection and Closed  
Top. 17" Dia. 20" high



Biehl Figure 56

Biehl Figure 56

No. 526 Salamander  
With Ash Pan  
17" Dia. 20" high

Biehl Salamanders can be furnished as desired. They are used for drying buildings and burning refuse by contractors, etc.

Prices on application.

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Biehl Figure 57

## Salamanders or Builders' Stoves

### No. 530

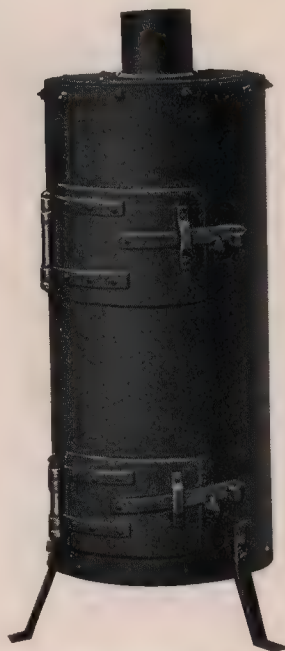
No. 530 is made larger and heavier than Salamander No. 526. It has stiffening band around top and bottom. Size of Salamander is 20" dia. 24" high.

## Builders' Stoves

### No. 531

This stove is 18" in dia. and 42" high, is made of  $\frac{3}{16}$  steel plate and equipped with heavy cast iron grate; has fire and ash doors in front. The bottom is tight so that ashes or fire cannot drop out, and top of stove has stove pipe connection.

This is a good stove for any building where perfect safety is required and fully complies with insurance rules.



Biehl Figure 58 .

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## Lead Melting Furnaces on Wheels



The Biehl Melting Furnace is made from boiler plate, the wheels being fitted with wrought rims and wrought iron spokes.

No. 7—18" is equipped with No. 3 Pot  
No. 8—24" is equipped with No. 4 Pot  
No. 9—30" is equipped with No. 5 Pot

Biehl Figure 59

## Lead Melting Furnaces on Legs

No. 0—18" is equipped with No. 3 Pot  
No. 1—24" is equipped with No. 4 Pot  
No. 2—30" is equipped with No. 5 Pot

## Heavy Cast Iron Pots

No.	Dia. of Pot in Inches	Depth of Pot in Inches	Capacity of Pot
3	13½	7½	200 lbs.
4	15	11	450 lbs.
5	18	14	850 lbs.



Biehl Figure 60

## Pressed Steel Pouring Bowls

No. 6—Capacity, 125 lbs.

## Heavy Cast Iron Grates

No. 7½ For 18" Furnace.  
No. 8½ For 24" Furnace.  
No. 9½ For 30" Furnace.

## Heavy Pressed Steel Ladles

No.	Diameter in Inches	Capacity in Pounds
1	6	15
2	8	26
3	9	42
4	10	58

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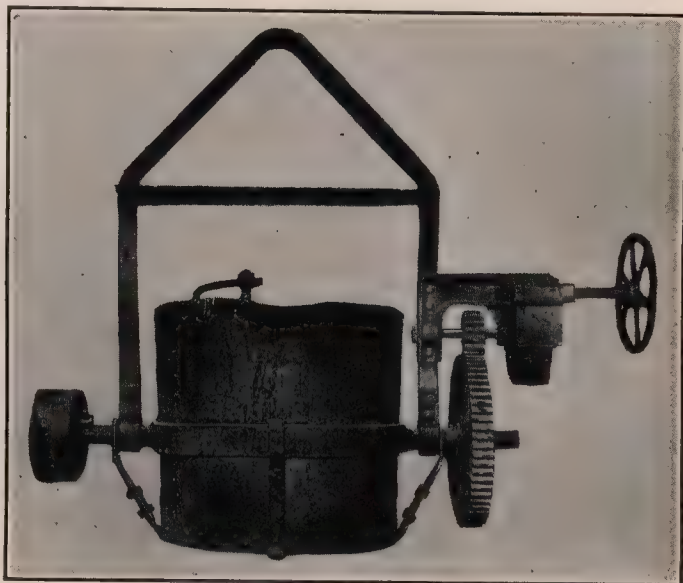


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## Foundry Ladle



Biehl Figure 61 Foundry Ladle

The Biehl Foundry Ladle is adapted for use in all Grey iron and brass foundries, as well as Blast Furnaces, or wherever molten metal is to be conveyed.

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## U. S. Standard Gauge

No. of Gauge	Thickness in Inches		Weight Square Foot	
	Fractions	Decimals	Iron	Steel
7-0's	1-2	.5	20.00	20.4
6-0's	15-32	.46875	18.75	19.125
5-0's	7-16	.4375	17.50	17.85
0000	13-32	.40625	16.25	16.575
000	3-8	.375	15.	15.30
00	11-32	.34375	13.75	14.025
0	5-16	.3125	12.50	12.75
1	9-32	.28125	11.25	11.475
2	17-64	.265625	10.625	10.8375
3	1-4	.25	10.	10.2
4	15-64	.234375	9.375	9.5625
5	7-32	.21875	8.75	8.925
6	13-64	.203125	8.125	8.2875
7	3-16	.1875	7.5	7.65
8	11-64	.171875	6.875	7.0125
9	5-32	.15625	6.25	6.375
10	9-64	.140625	5.625	5.7375
11	1-8	.125	5.	5.1
12	7-64	.109375	4.375	4.4625
13	3-32	.09375	3.75	3.825
14	5-64	.078125	3.125	3.1875
15	9-128	.0703125	2.8125	2.86875
16	1-16	.0625	2.5	2.55
17	9-160	.05625	2.25	2.295
18	1-20	.05	2.	2.04
19	7-160	.04375	1.75	1.785
20	3-80	.0375	1.50	1.53
21	11-320	.034375	1.375	1.4025
22	1-32	.03125	1.25	1.275
23	9-320	.028125	1.125	1.1475
24	1-40	.025	1.	1.02
25	7-320	.021875	.865	.8925
26	3-160	.01875	.75	.765
27	11-640	.0171875	.6875	.70125
28	1-64	.015625	.625	.6375
29	9-640	.0140625	.5625	.57375
30	1-80	.0125	.5	.51

SPECIFY BIEHL CARS AND SAVE LABOR

